

CLAIMS

What is claimed is:

1. A positioning assembly for use with a magnetic imaging magnet having a magnet bore, comprising:

a first mounting member mountable relative to the magnetic imaging magnet in a fixed position;

a locator member rigidly spaced a predetermining distance from said mounting member and insertable within said magnet bore;

a spacer member rigidly spaced a predetermined distance from said mounting member and said locator member and insertable within said bore, said spacer member having a keyed surface portion; and

a second mounting member having a keyed surface portion engageable with said keyed surface portion of said spacer member

2. The assembly of claim 1, wherein said first mounting member comprises a flange mountable to an external surface portion of said magnet and a plug portion insertable within said magnet bore.

3. The assembly of claim 1, wherein said locator member comprises an abutment surface portion for engaging a gradient coil.

4. The assembly of claim 1, wherein said spacer member comprises a plate insertable within a gradient coil.

5. The assembly of claim 1, wherein said second mounting member comprises a cap

mountable to a probe magnet.

6. The assembly of claim 1, further comprising a plurality of front space members interconnecting said first mounting member and said locator member.

7. The assembly of claim 1, further comprising a plurality of inner spacer members interconnecting said locator member and said spacer member.

8. The assembly of claim 1, further comprising a pair of support rods coupled to said first mounting member, said locator member and said spacer member.

9. The assembly of claim 1, further comprising a specimen positioning assembly removably mounted within said first mounting member and said locator member.

10. A positioning assembly mountable within the bore of an imaging apparatus having an axis, comprising:
a front mounting member;
an annular locator member rigidly connected to said front mounting member;
an annular spacer member rigidly connected to said annular locator member; and
a pair of support rods carried by said front mounting member, said locator member and said spacer member.

11. The assembly of claim 11, wherein said pair of support rods comprises a pair of cylindrical rods.

12. The assembly of claim 12, wherein said front mounting member comprises a front flange mountable externally of said bore.

13. The assembly of claim 12, wherein said pair of support rods is aligned in a horizontal plane passing through said axis.

14. The assembly of claim 12, further comprising a specimen positioning assembly supported in said positioning assembly on said support rods.

15. The assembly of claim 14, further comprising a pair of support rails provided on said specimen positioning assembly and slidably engaged with said pair of support rods.

16. A positioning system for positioning a specimen in a predetermined position within an imaging machine, said positioning system comprising:

a first pair of support members insertable within said imaging machine;

a specimen positioning assembly comprising a specimen retention device and a second pair of support members; and

a sliding interconnection provided between said first and second pairs of support members.

17. The system of claim 16, wherein said sliding interconnection comprises a pair of rods and a pair of grooved rails.

18. The system of claim 16, wherein said sliding interconnection comprises a self-centering interconnection.

19. The system of claim 16, further comprising a mounting member fixed to said imaging machine, and wherein said first pair of support members is connected to said mounting member, and wherein said specimen positioning assembly is freely insertable into said mounting member and freely removable therefrom.

20. The system of claim 16, wherein said specimen positioning assembly comprises an engagement member for limiting insertion of said specimen positioning assembly into said imaging machine.

21. A method of positioning a specimen in an imaging apparatus, comprising:
- mounting a positioning assembly on said imaging apparatus;
 - constraining a specimen in a specimen holding assembly;
 - mounting said specimen holding assembly on said positioning assembly; and
 - abutting a positioning surface on said specimen holding assembly with a positioning surface on said positioning assembly.